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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/782,638

02/19/2004

Wade E. Hairfield SR.

Hairfield

4127

7590

05/18/2006

APRIL 2000 LLC
3225 McLEOD DRIVE
#100
LAS VEGAS, NV 89121

EXAMINER

FLORY, CHRISTOPHER A

ART UNIT

PAPER NUMBER

3762

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/782,638

Applicant(s)

HAIRFIELD, WADE E.

Examiner

Christopher A. Flory

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: indicator lamp 219 (page 13, lines 11 and 20). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: the specification contains typographical errors. On page 6, line 22, "height 42" should be corrected to read --height H2--. On page 8, line 1, "electrostatic charges around the *electrostatic charges around the* electrode 1" should be corrected to read --electrostatic charges around the electrode 1--. On page 8, line 5, "cathode 3" should be corrected to read --cathode 2--. Appropriate correction is required.

4. The disclosure is objected to because of the following informalities: the applicant has used the wrong equation for calculating cylinder surface area, and thus has calculated an incorrect ratio between the surface areas of the disclosed electrodes in the specification and in claim 6. Applicant has supplied the following equation:

$$\frac{(\pi r^2) (H1)}{(\pi r^2) (H1)} = \frac{\pi (D1/2)^2 (4)}{\pi (D2/2)^2 (3)} = \frac{(1/2)^2 4}{(1)^2 3} = 1/3$$

which is the equation for finding the ratio between the volumes of the cylinders.

The correct equation for determining the ratio between the surface area of two cylinders and the resulting ratio is:

$$\frac{(2\pi r^*h) (H2)}{(2\pi r^*h) (H1)} = \frac{\pi (D1) (4)}{\pi (D2) (3)} = \frac{1 (4)}{2 (3)} = 2/3$$

Claim 6 will be examined assuming this correct ratio. Appropriate correction is required.

5. The use of the trademark Wal-Mart has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

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Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Examiner suggests that, because the use of Wal-Mart brand water is not essential to the proper functioning of the invention, the general term –spring water—be substituted in the appropriate place on page 11 of the disclosure.

Claim Objections

6. Claim 6 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 6 fails to further limit claim 2 because a surface area ratio of 3:2 (see paragraph 4 above) is an inherent mathematical property of two cylinders with the given dimensions.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Erni et al. (US Patent 4,461,744).

Regarding claim 1, Erni et al. discloses an electrode comprising an outer cylindrical conductor and an inner cylindrical conductor (Fig. 11, any of metal tube 3, inner electrode 14", outer electrode 13", or conductive coatings 5, 37 and 38); a plurality of members securing the inner cylinder inside the outer cylinder (Fig. 11, supports 29); a power source connected to the inner and outer cylinders (Fig. 1, supply system 2; column 3, lines 29-41); and a basin having a conductive fluid therein (Fig. 13, boiler 42 filled with oxygen-containing gas).

It is noted that, in an enclosed system, a gas can be defined identically as a fluid, because it has the same physical properties of a fluid: they have the ability to flow and do not tend to return to their former configuration after deformation, they have viscosity, and occupy a fixed volume. Therefore, the oxygen-containing (and conductive) gas of the Erni et al. device is considered by definition to be a conductive fluid, and the instant claim does not distinguish over the prior art.

Regarding the clause that the power source have a circuit breaker, it is held that a failsafe circuit is an inherent component of any power source known in the biomedical art, and therefore the instant application does not distinguish over the prior art.

Erni et al. does not explicitly disclose that the current between the conductors should range from 0.1 to 4 amps. However, it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In this case, it is known that current below 0.1 amps is of insufficient magnitude for a human to detect, while currents above

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4 amps may become dangerous to the user. Therefore, this claim limitation does not distinguish over the prior art.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bevan et al. (UK Patent Application GB 2394181 A) in view of Bässler et al. (US Patent 4,410,495).

Regarding claims 1 and 4, Bevan et al. discloses an electrode (Fig. 1b) comprising an outer cylindrical conductor and an inner cylindrical conductor (any concentric ring of electrode 1 and any concentric ring of electrode 2 can be considered a cylinder of negligible height, as such an arrangement would produce electric fields identical in nature and function to those disclosed in the instant application); a plurality of members securing the cylinders (plastic plates 6 and 7); a power source to both (page 2, lines 9-10; page 4, lines 8-9); a basin having conductive fluid therein (page 2, lines 1-5) with the electrode immersed in the fluid (page 1, lines 1-10; page 4, lines 17-20); and a stand forming an insulator between the conductors (either or both of fluid permeable perforated plastic plates 6 and 7).

Bevan et al. does not explicitly disclose that the power source include a circuit breaker. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a circuit breaker since it is known in the art that circuit breakers provide a necessary safety circuit to protect the health or, in extreme cases, the life of the user. Therefore, the claim limitation of a circuit breaker does not distinguish over the prior art.

Bevan et al. does not explicitly disclose that the current between the conductors should range from 0.1 to 4 amps. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an operable range of 0.1 to 4 amps, since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In this case, it is known that current below 0.1 amps is of insufficient magnitude for a human to detect, while currents above 4 amps may become dangerous to the user.

In the case that Bevan et al. is not understood to disclose an electrode comprising an inner cylinder and an outer cylinder, Bässler et al. teaches an ozonizer formed of an interior electrode in the form of an electrically conducting tube arranged concentrically [to]...at least two parallel electrically conducting sleeves, which are separated axially relative to one another and surrounding the insulating tube to form the exterior electrode of the ionizer" (ABSTRACT; Fig. 1, inner tube 1 and exterior electrode 2) for the purpose of economical ozone production (column 2, lines 14-17). Therefore, it would have been an obvious matter of design choice to one of ordinary skill in the art at

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the time of the invention to provide the Bevan et al. device with the ozonizer electrode of Bässler et al. for the same advantages of economical ozone production (motivation to combine provided by Bässler et al., column 2, lines 14-17).

Regarding claims 2 and 6, Bevan et al. (or Bevan et al. in view of Bässler et al.) does not explicitly disclose that the electrode have outer cylinder dimensions of 2 inches wide and 3 inches high, and the inner cylinder have dimensions of 1 inch wide and 4 inches high. In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. In the case of the instant application, the claimed dimensions of the electrode would create the same stimulating and ozonizing effect as any electrode of smaller or larger size, such as that of the embodiment disclosed in Fig. 6 of the instant application. Therefore, the claim limitations to size do not distinguish over the electrodes of Bevan et al. and Bässler et al.

Regarding claim 3, Bevan et al. in view of Bässler et al. discloses the invention substantially as claimed except for the connecting member comprising a bolt having an insulating sleeve. It would have been within the skill of the art to substitute the insulating tube retaining element of Bässler et al. with bolt and insulating sleeve as claimed in the current application, since they are alternate equivalents and it has

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generally been held to be within the skill level of the art to substitute alternate equivalent expedients. Therefore, the limitations of claim 3 do not distinguish the instant application over the prior art.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bevan et al. in view of Bässler et al. as applied to claim 1 above, and further in view of Kurokawa et al. (US Patent Publication 2004/0010845).

Bevan et al. in view of Bässler et al. discloses the claimed invention substantially as claimed except for a power source that includes a timer. In the same field of endeavor, Kurokawa et al. teaches the use of an operation timer (Fig. 9, operation timer switch 56). Kurokawa et al. does not explicitly state why the operation timer is used, but it appears that the operation timer is used to provide the user the ability to control the amount of time that the heating and electrolytic water producing elements are active, thus selecting a desired length of treatment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system as taught by Bevan et al. in view of Bässler et al., with the timer as taught by Kurokawa et al., since such a modification would provide the system with a means for providing the user with the ability to select a length of treatment using the invention (motivation to combine provided by Kurokawa et al.).

12. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ostrow (US Patent 5,741,317, hereinafter referred to as Ostrow'317).

Regarding claims 1 and 4, Ostrow'317 discloses an electrode (column 1, lines 41-59); a power source to both the anode and cathode (Fig. 7, anode 82 and cathode

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84); a basin having conductive fluid therein (ABSTRACT; column 4, lines 32-38) with the electrode immersed in the fluid (Fig. 1; column 5, line 63 through column 6, line 6); and a stand forming an insulator between the conductors (column 5, lines 62-67—the plastic tub in which the electrodes are housed is considered to be the insulating stand between the conductors).

Ostrow'317 discloses the claimed invention but does not disclose expressly the electrode comprising an outer cylindrical conductor and an inner cylindrical conductor. It would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the system as taught by Ostrow'317 with the electrode comprising an outer cylinder and inner cylinder, because Applicant has not disclosed that the electrode provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the plate electrodes as taught by Ostrow'317, because it provides an anode and cathode array for providing electrical stimulation to the user's body and ozonization of the water in the tub, and since it appears to be an arbitrary design consideration which fails to patentably distinguish over Ostrow'317. Furthermore, it has been held that making an inventive element separable, e.g. replacing the housed electrode of Ostrow'317 with the disconnected electrode of the instant application, involves only routine skill in the art (*In re Nerwin v. Erlichman*, 168 USPQ 177, 179). Therefore, it would have been an obvious matter of design choice to modify Ostrow'317 to obtain the invention as specified in the claims.

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Ostrow'317 et al. does not explicitly disclose that the power source include a circuit breaker. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a circuit breaker since it is known in the art that circuit breakers provide a necessary safety circuit to protect the health or, in extreme cases, the life of the user. Therefore, the claim limitation of a circuit breaker does not distinguish over the prior art.

Ostrow et al. does not explicitly disclose that the current between the conductors should range from 0.1 to 4 amps. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an operable range of 0.1 to 4 amps, since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In this case, it is known that current below 0.1 amps is of insufficient magnitude for a human to detect, while currents above 4 amps may become dangerous to the user.

Regarding claims 2 and 6, Ostrow'317 does not explicitly disclose that the electrode have outer cylinder dimensions of 2 inches wide and 3 inches high, and the inner cylinder have dimensions of 1 inch wide and 4 inches high. In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from

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the prior art device. In the case of the instant application, the claimed dimensions of the electrode would create the same stimulating and ozonizing effect as any electrode of smaller or larger size, such as that of the embodiment disclosed in Fig. 6 of the instant application. Therefore, the claim limitations to size do not distinguish over the electrodes of Bevan et al. and Bässler et al.

Regarding claim 3, Ostrow'317 discloses the invention substantially as claimed except for the connecting member comprising a bolt having an insulating sleeve. It would have been within the skill of the art to substitute the insulating tube retaining element of Bässler et al. with bolt and insulating sleeve as claimed in the current application, since they are alternate equivalents and it has generally been held to be within the skill level of the art to substitute alternate equivalent expedients. Therefore, the limitations of claim 3 do not distinguish the instant application over the prior art.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ostrow'317 in view of Kurokawa et al.

Ostrow'317 discloses the claimed invention substantially as claimed except for a power source that includes a timer. In the same field of endeavor, Kurokawa et al. teaches the use of an operation timer (Fig. 9, operation timer switch 56). Kurokawa et al. does not explicitly state why the operation timer is used, but it appears that the operation timer is used to provide the user the ability to control the amount of time that the heating and electrolytic water producing elements are active, thus selecting a desired length of treatment. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system as taught by Ostrow'317,

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with the timer as taught by Kurokawa et al., since such a modification would provide the system with a means for providing the user with the ability to select a length of treatment using the invention (motivation to combine provided by Kurokawa et al.).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Flory whose telephone number is (571) 272-6820. The examiner can normally be reached on M - F 8:30 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher A. Flory

12 May 2006


George Manuel
Primary Examiner